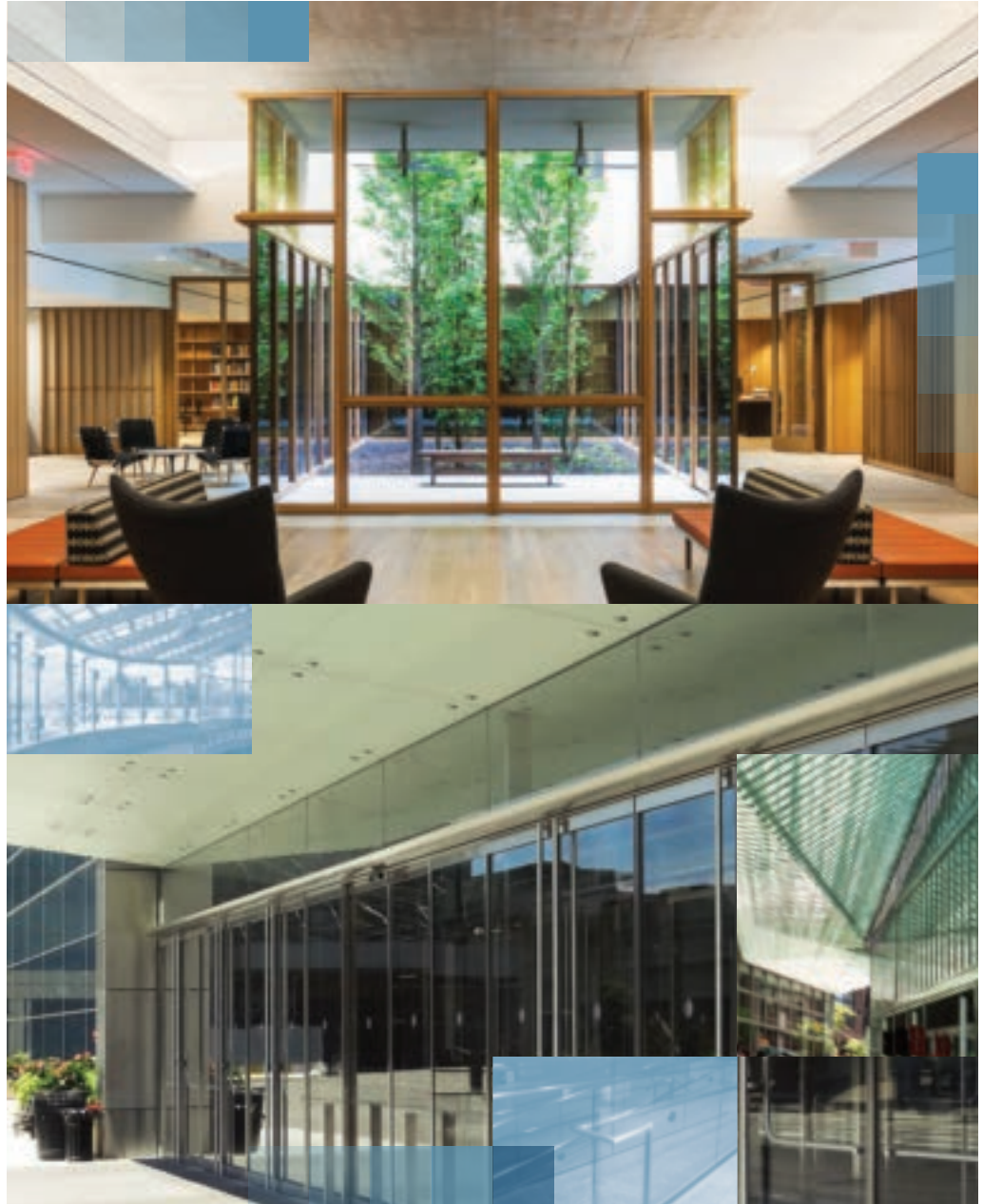


JEB

FUSION™
Laminated Glass

JEBERKOWITZ

ARCHITECTURAL GLASS SINCE 1920



JEB FUSION™

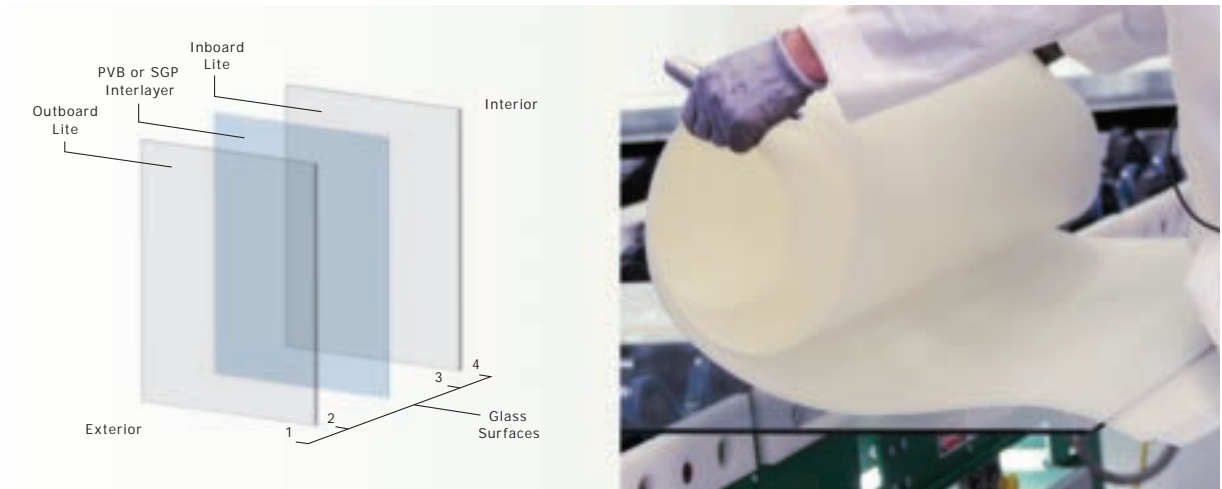
Laminated Glass

Proven Success

Since 1920, J.E. Berkowitz, LP (JEB), has been a leader in the glass fabrication industry serving both domestic and international markets. The family-owned glass business is located in Pedricktown, N.J., at a state-of-the-art 253,000 square-foot facility that sits on 23 acres. In addition to housing our fully integrated laminating line, it includes multiple automated glass cutting, heat-treating, insulating, decorating and fabrication lines.



JEB Fusion™ Laminated Glass



Laminating Process

Laminated glass is produced by sandwiching one or more layers of Polyvinyl butyral (PVB) or structural interlayer (SGP) material between multiple (two or more) lites of glass and applying a combination of heat and pressure to permanently “fuse” the layers together, creating JEB Fusion™ laminated glass.

This is accomplished through a nip roll¹ and autoclave² process. In this process, the air is pushed out from between the glass and the interlayer, sealing the components together. The pre-laminate is then put through an autoclave where heat and pressure are applied, resulting in the finished laminate.

¹ The nip roll process uses specialized rollers and ovens to press air from between the glass and the interlayer(s). The end result is a pre-laminate.

² The autoclave process is the final step in the laminating process. Here the pre-laminate is placed inside a vessel (autoclave) that employs high pressure and heat, permanently bonding the pre-laminate to create a laminated glass product.



Laminated Glass

Quality

Laminated glass quality starts with the flatness of the glass. When processing heat-treated laminated glass products, flatness is crucial for optimum clarity. Our tempering ovens produce the flattest architectural glass in the industry, with an internal quality target roller-wave distortion of .003" peak-to-valley and at a 1/32" bow and warp per linear foot (half of the ASTM C1048 standard).

Our state-of-the-art laminating line has a maximum size of 96" x 180" with an autoclave that can support a maximum load capacity of 10,000 lbs. The line includes a glass washer, lay-up line, dual-stage infrared ovens with pinch roll presses and a clean room. The clean room is temperature and humidity controlled, ensuring the highest level of cleanliness for the final product. In addition, an attached cold storage room preserves the cleanliness and physical properties of the PVB materials used in the laminating process.

JEB has partnered with world-class PVB and structural interlayer suppliers Kuraray Americas, Inc., and Eastman, to provide the expertise and support to produce the highest quality annealed and heat-treated laminated products in the industry.

Applications

JEB Fusion™ laminated glass is an ideal choice to meet the demands of increasingly complex architectural designs, and can be used in a wide variety of applications, including:

- Insulating Glass Units (IGUs)
- Safety
- Security
- Sound Control
- Solar Control
- UV Protection
- Noise Reduction
- Wind / Storm / Hurricane Resistance
- Blast Mitigation
- Skylights
- Balustrades / Railings
- Point-Supported Walls and Canopies



Standard Colors Available

- Kuraray Butacite® Clear
- Kuraray Butacite® Translucent White # 0216500



These interlayers can be laminated with clear, tinted, pyrolytic and sputter-coated low-e substrates. A variety of color options can be achieved by combining tinted glass substrates with a clear or translucent white interlayer. Acoustical interlayers also are available.

Sizes

- Minimum: 12" x 12"
- Maximum: 96" x 180"

Laminated Glass Thicknesses

- Minimum: 1/4" Laminated Glass (1/8" - .030 PVB - 1/8")
- Maximum: 1-9/16" Laminated Glass (3/4" - .090 PVB - 3/4")*

* Please consult customer service for additional thicknesses at 800.257.7827.

Certifications

Laminated glass made with .030" (.76mm) PVB (or thicker) will meet the requirements for CPSC 16 CFR 1201 Category I and II standards, ANSI Z97.1 Class A and B standards, and CAN/ CGSB 12.1 M Category I and II standards. JEB also meets the requirements of ASTM C1172 Standard Specification for Laminated Architectural Flat Glass.

Kuraray Butacite® PVB interlayer has received Miami Dade County's Product Control Notice of Acceptance (NOA).

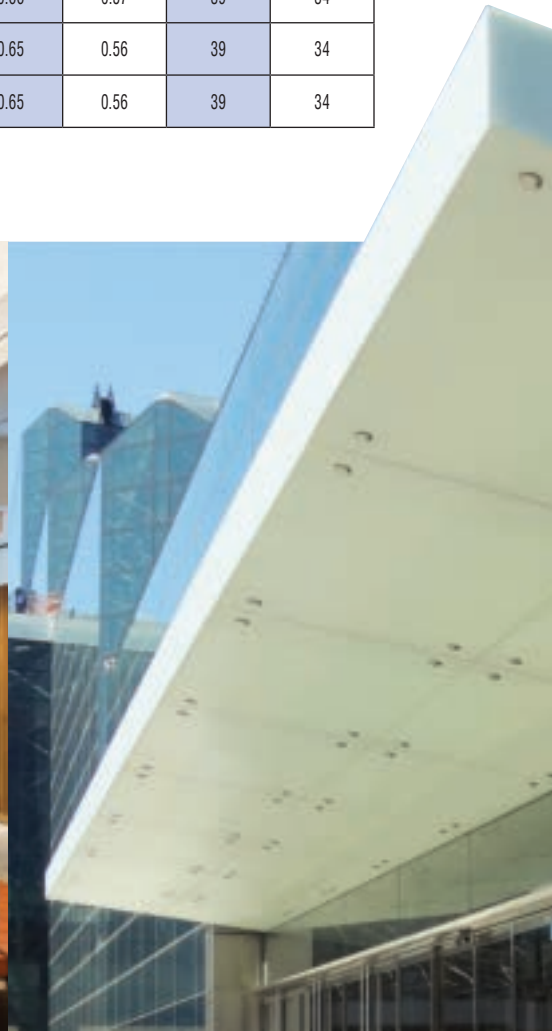
These products are tested and certified by the Safety Glass Certification Council (SGCC) for third party certification.

JEB FUSION™

Laminated Glass

Solar Control and Sound Characteristics – Clear Interlayer

JEB Fusion™ Laminated Glass with Clear Interlayer											
Laminate Color	Nominal Laminate Thickness	Makeup			Visible Light		U-Factor	SC	SHGC	STC	OITC
		Outboard Lite	PVB Clear	Inboard Lite	Transmittance	Reflectance (Outdoor)					
Clear	1/4"	1/8" Clear	0.030	1/8" Clear	88%	8%	1.00	0.91	0.79	35	31
Clear	5/16"	1/8" Clear	0.060	1/8" Clear	88%	8%	0.98	0.90	0.78	35	31
Clear	3/8"	3/16" Clear	0.030	3/16" Clear	86%	8%	0.98	0.86	0.74	36	33
Clear	7/16"	3/16" Clear	0.060	3/16" Clear	86%	8%	0.96	0.85	0.74	37	33
Clear	1/2"	1/4" Clear	0.030	1/4" Clear	85%	8%	0.97	0.84	0.73	38	34
Clear	9/16"	1/4" Clear	0.060	1/4" Clear	85%	8%	0.95	0.83	0.72	39	34
Gray	9/16"	1/4" Gray	0.060	1/4" Clear	43%	5%	0.95	0.61	0.53	39	34
Green	9/16"	1/4" Green	0.060	1/4" Clear	74%	7%	0.95	0.66	0.57	39	34
Bronze	9/16"	1/4" Bronze	0.060	1/4" Clear	49%	5%	0.95	0.65	0.56	39	34
Blue	9/16"	1/4" Blue	0.060	1/4" Clear	55%	6%	0.95	0.65	0.56	39	34



Laminated Glass

Solar Control and Sound Characteristics – White Interlayer

JEB Fusion™ Laminated Glass with White Interlayer											
Laminate Color	Nominal Laminate Thickness	Makeup			Visible Light		U-Factor	SC	SHGC	STC	OITC
		Outboard Lite	PVB Trans. White	Inboard Lite	Transmittance	Reflectance (Outdoor)					
White	1/4"	1/8" Clear	0.030	1/8" Clear	63%	6%	1.01	0.77	0.66	35	31
White	5/16"	1/8" Clear	0.060	1/8" Clear	63%	6%	0.99	0.76	0.66	35	31
White	3/8"	3/16" Clear	0.030	3/16" Clear	61%	6%	0.99	0.73	0.63	36	34
White	7/16"	3/16" Clear	0.060	3/16" Clear	61%	6%	0.97	0.72	0.62	37	34
White	1/2"	1/4" Clear	0.030	1/4" Clear	61%	6%	0.97	0.72	0.63	38	34
White	9/16"	1/4" Clear	0.060	1/4" Clear	61%	6%	0.95	0.71	0.62	39	34



SentryGlas®

Using Kuraray Ionoplast Interlayer

SentryGlas® Laminated Glass

SentryGlas® laminated glass features a unique ionoplast structural interlayer, offering unmatched clarity. When combined with low-iron glass, SentryGlas® laminated glass is nearly invisible.



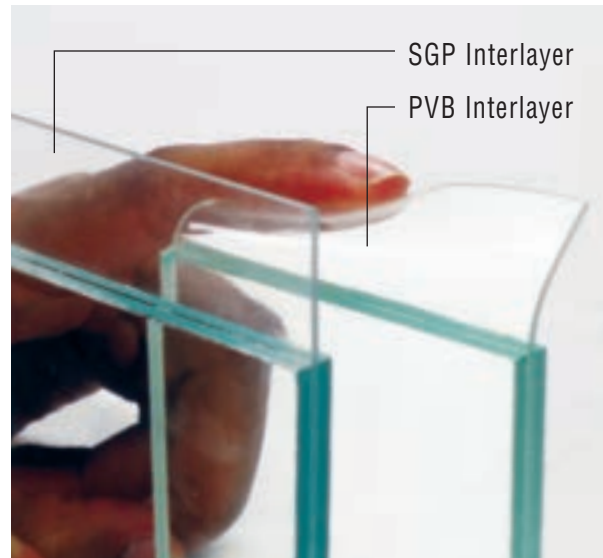
SentryGlas® laminated glass is able to withstand greater wind forces and maintain better building protection. It also has received Miami Dade County's Product Control Notice of Acceptance (NOA).

In addition, SentryGlas® laminated glass outperforms conventional PVB in edge-stability testing, making it your first choice for JEB Invisiwall™ applications with exposed edges (canopies, handrails and point-supported walls). SentryGlas® is available in .035, .060, and .090 thicknesses.



Available Colors

- Clear
- Translucent white



SentryGlas® laminated glass is approximately 100 times stiffer and five times stronger than conventional laminates, making it an ideal choice for hurricane glass and other structurally demanding applications.

Benefits

- ✓ Better edge stability than PVB, making it the correct choice for point-supported and exposed-edge applications
- ✓ Approximately five times stronger than PVB, allowing for thinner laminates of equal or greater strength
- ✓ Meets Miami Dade County's Product Control Notice of Acceptance (NOA) for hurricane-resistance
- ✓ Unmatched clarity



SentryGlas®

Using Kuraray Ionoplast Interlayer

Light and Solar Control Characteristics

JEB Fusion Plus™ Laminated Glass with Kuraray SGP Interlayer									
Laminate Color	Nominal Laminate Thickness	Make-Up			Visible Light		U-Factor	SC	SHGC
		Outboard Lite	SGP	Inboard Lite	Transmittance	Reflectance (Outdoor)			
Clear	7/16"	3/16" Clear	0.060"	3/16" Clear	86%	8%	0.97	0.85	0.73
Clear	9/16"	1/4" Clear	0.060"	1/4" Clear	85%	8%	0.95	0.83	0.72
Clear	13/16"	3/8" Clear	0.060"	3/8" Clear	84%	8%	0.92	0.79	0.68

- Exposed Edges
- Structural Applications
- Hurricane Codes
- Blast Mitigation
- UV Control
- Sound Attenuation



Taking Glass Fabrication to the Next Level



CONTACTS

For product selection assistance, project-specific applications, technical support and pricing, please contact JEB at *800.257.7827* or *info@jeberkowitz.com*.

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J. E. Berkowitz, LP
One Gateway Boulevard
P.O. Box 427
Pedricktown, NJ 08067



Phone: 800.257.7827
Fax: 856.299.4344
email: info@jeberkowitz.com
web: www.jeberkowitz.com